Remarks

Rejections of Formality

The Examiner rejected Claims 4 and 8-9 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner stated that the term "recovered difluoromethane" in Claims 8 and 9 lacks antecedent support. The Examiner suggested that the term "recovered" should be replaced with "purified" as recovered is not initially recited in the claims. In response, Applicant has followed the Examiner's suggestion and amended the claims such that "recovered" has been replaced with the term "purified".

Additionally, the Examiner states that in Claims 4 and 8-9, the phrase "at least one" should be inserted before impurity for consistent use of terminology in the claims. In response, Applicant has followed the Examiner's suggestion and inserted "at least one" before the term "impurity" in Claims 4 and 8-9.

Applicant submits that the claims as amended overcome the Examiner's rejection under 35 U.S.C. §112.

Prior Art Rejections

The Examiner rejected Claims 1 and 3-11 under 35 U.S.C. §103(a) as being unpatentable over WO '660 in view of Coulson et al. publication and Yokoyama et al. The Examiner further indicated that the Applicant's arguments filed on May 5, 2003 have been fully considered but were found not to be persuasive. Specifically, the Examiner states as follows:

> [W]hile WO '660 does not disclose the argued "recycling at least a portion of the extractive agent stream to the fluorination process . . .", however, the above limitation is not unobvious nor is it evidence of criticality as taught by Yokoyama. That is, Yokoyama at col. 2, lines 5-9, suggests that "the extractants be used in the present invention, are the starting material and the intermediate for difluoromethane, and the extractants dissolved in HF can be

converted to difluoromethane as the desire product, by returning them to the reaction system."

Final Rejection, page 3.

Although Applicant does not agree with the Examiner's conclusion, at this time, there is no need to address the merits of this rejection since the secondary reference, Yokoyama, is not prior art under 35 U.S.C. §102(e). That is, Applicant made his invention in the United States prior to the effective date of the Yokoyama reference, February 21, 2001. In support of this statement, attached hereto is a declaration from Paul Clemmer under 37 C.F.R. §1.131.

As the declaration makes clear, the Applicant was in possession of the invention prior to the effective date of the Yokoyama reference. This is evidenced by a draft of the present patent application, which was transmitted by the inventor, Paul Clemmer, to Honeywell's inside counsel, Colleen Szuch, and then by Ms. Szuch to the undersigned prior to the effective date of the reference, February 21, 2001. This draft was a revision of an earlier draft prepared by the undersigned. Complementing the draft application are two schematic drawings which illustrate two preferred embodiments of the invention. These drawings were prepared prior to the draft application.

The draft application proves the concept of using dichloromethane as an extractive agent for removing a variety of impurities from difluoromethane (HFC-32) in an extractive distillation process and recycling a portion of the HFC-32 in the distillation process back to the fluorination process as a feed stream. Specifically, the draft application provides experimental evidence showing that, in the purification distillation of HFC-32, the level of dichlorofluoromethane, dichlorodifluoromethane and chlorofluoromethane were reduced considerably in the distillate by adding dichloromethane. Additionally, the draft application and schematic drawings provide detailed descriptions and illustrations of two preferred embodiments of a fluorination/purification process in which a stream rich in dichloromethane is extracted from a distillation process (which uses dichloromethane as an extraction agent) and is recycled to a fluorination reaction (which uses dichloromethane as a starting material). Since this is a relatively simple process of obvious efficacy in light of the detailed description

and schematic drawings, testing and experimentation is not necessary to establish the capacity of the claimed process to fulfill its intended purpose. Thus, the concept of using dichloromethane as an extractive agent and then feeding a fluorination reaction with a dichloromethane stream from the distillation process was reduced to practice prior to the effective date of Yokoyama.

Even if one determines that the claims were not entirely or in part reduced to practiced by virtue of the patent application and the experimentation/reduction to practice that it memorializes, one would have to conclude that Applicant nevertheless acted diligently in reducing the invention to practice. That is, only twenty nine (29) days transpired between the effective date of Yokoyama and the filing of the present application. Thus, since the Applicant clearly conceived of the claimed invention prior to the effective date of Yokoyama and acted diligently during the critical period in preparing and filing an application to effect, at the very least, constructive reduction to practice of this invention, Yokoyama should be withdrawn as a reference.

Applicant submits that, absent the Yokoyama reference, the Examiner cannot sustain his rejection and, thus, the claims should be allowed.

An early and favorable response is earnestly solicited. Thank you.

Respectfully submitted,

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